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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,396	06/09/2005	Eng Keong Ho	5731-000008/US/NP	2240
28997 7590 12/14/2007 HARNES, DICKEY, & PIERCE, P.L.C 7700 BONHOMME, STE 400 ST. LOUIS, MO 63105			EXAMINER VON BUHR, MARIA N	
			ART UNIT	PAPER NUMBER
			2125	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,396

Applicant(s)

HO, ENG KEONG

Examiner

M.N. Von Buhr

Art Unit

2125

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This application is a continuation of Application Serial No. PCT/SG03/00297 and is, therefore, accorded the benefit of the earlier filing date of 31 December 2003.
2. Examiner acknowledges receipt of Applicant's preliminary amendment, received 09 June 2005; which amends the specification and abstract, cancels claims 1-17 and adds claims 18-45. Claims 18-45 are now pending in this application.
3. Examiner acknowledges receipt of Applicant's substitute specification, received 09 June 2005, which has been entered.
4. The specification is objected to, because the abbreviation "SPC" (page 1) has not been defined. Appropriate correction is required in response to this Office action.
5. The drawings are objected to, because Figures 3-6, 8 and 9 are too dark to discern the contents of the graphs. Appropriate correction is required in response to this Office action.
6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by Examiner, Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
7. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, 40, 41, 44 and 45 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As per claims 21, 25, 29, 33, 37, 41 and 45, the instant specification does not provide any description nor provide any support for the instantly claimed "software" for effecting the methods.

As per claims 20, 24, 28, 32, 36, 40 and 44, the instant specification does not provide any description nor provide any support for the instantly claimed "system" for effecting the methods.

9. Claims 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, 40, 41, 44 and 45 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In this case, the claims encompass any and all systems/software for implementing the method, with no metes or bounds to such systems/software. The instant specification does not provide support for such a broad possibility of implementations, as it is limited to the embodiments instantly disclosed.

10. The following is a quotation of the second paragraph of 35 U.S.C. §112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which Applicant regards as his invention.

11. Claims 19, 20, 23, 24, 27, 28, 31, 32, 35, 36, 39, 40, 43 and 44 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 20, 24, 28, 32, 36, 40 and 44 are system claims. These claims are not interpreted as means-plus-function claims as they are not written in a style or manner indicative of such a claim structure. Therefore MPEP 2114 is pertinent to the application of art to the above apparatus claims. The body of these claims is directed to functions rather than structure and the cited section of the MPEP states that an "apparatus must be distinguished from the prior art in terms of structure rather than function" as the same structure is capable of performing the same type of functionalities. In this regard, since no actual structure has been claimed, there are no metes and bounds to these claims. It is not possible to determine from the

claim language which systems are being claimed, from amongst the numerous possibilities potentially capable of implementing the claimed methods.

In claims 19, 23, 27, 31, 35, 39 and 43, there is no clear and proper antecedent basis for "said data," since it is unclear which of the "yield data," "data series R1," "data series R2" and "data points" of the parent claim are being referred to. Also, there is no clear and proper functional antecedence for "the success and failure of detecting suspect production tools," since no such characteristic has been previously determined, such that it can be included in "said data." In addition, there is no clear and proper antecedence for "the accuracy of detection" nor "the capture rate," nor is there any functional antecedence for such elements having been "maximized," such that values can be chosen in response thereto. These limitations seem to have been presented with no clear nexus to the body of the parent claims, and as such their metes and bounds cannot be determined.

Further in claim 23, there is no clear and proper antecedent basis for "the values m...o...s and z."

Further in claim 27, there is no clear and proper antecedent basis for "the values...n...p, r...and z."

Further in claim 31, there is no clear and proper antecedent basis for "the values m, n, o, p, r, s... ."

Further in claim 35, there is no clear and proper antecedent basis for "the values...z."

Further in claim 39, there is no clear and proper antecedent basis for "the values m...o...s... ."

Further in claim 43, there is no clear and proper antecedent basis for "the values...n...p, r... ."

12. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 21, 25, 29, 33, 37, 41 and 45 are rejected under 35 U.S.C. §101, because the claimed invention is directed to non-statutory subject matter. See MPEP §2106(IV), wherein computer related non-statutory subject matter is defined. In this case, the instant claims are directed to software, per se, without any recitation of computer execution of the program instructions. Hence, since software (i.e. a program) is merely a set of instructions capable of being executed by a computer, the program itself is not a process and, without the medium on which it is stored being computer-readable, and/or without the computer for performing the execution, the program's functionality cannot be achieved. Accordingly, the software is deemed to be non-statutory descriptive material.

14. Due to the ambiguities and confusion in claims 19, 23, 27, 31, 35, 39 and 43, no art has been applied thereto, see *In re Steele*, 49 CCPA 1295, 305 F.2d 859, 134 USPQ 292 (1962) and *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). The examiner will not speculate as to the intended meaning.

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by Applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by Applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by Applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 22, 24-26, 28, 29, 34, 36 and 37 are rejected under 35 U.S.C. §102(a), (b) and (c), as being clearly anticipated by Miura (U.S. Patent Application Publication No. 2002/0173935, filed 13 May 2002 and published 21 November 2002; now issued as U.S. Patent No. 6,778,942, issued 17 August 2004); which discloses “a monitoring device for a machine tool, which monitors operations in work machining to increase the precision level of the yield of the work. To monitor a load current supplied to a machining motor in 1-cycle units which run from the start of the machining to the end of the machining, sampling points are taken at shorter intervals along the time axis of the machining in areas where the machining is complex, and in areas where the machining is simple sampling points are taken at longer intervals along the time axis of the machining; and at each sampling point the sampling data are stored and undergo numerical processing. Then, the actually measured value of the load current is compared to determine whether or not the actually measured value is within a range of an upper and a lower limit which are determined by a standard deviation value calculated from the sampling data at each sampling point, to thereby monitor the machining process. Determination as to defective/non-defective is performed at each sampling point on the basis of the range between the upper and lower limits which model the shape of the work. As a result, the probability of non-defective products being unretrieved as data is reduced and abnormalities are detected quickly at each sampling point to allow swift handling of the problem” (the abstract).

As per the claims, Miura teaches that “in order to achieve the above-mentioned object, the invention according to a first aspect of the present invention is characterized in that: an amount of change in one cycle from the beginning until the end of the operation process is converted into a readable signal; sampling

pointss [sic] are set in response to changes in the signal, and sampling data that are measured across a plurality of cycles are saved; and for each sampling point a standard deviation value is obtained and program processing is performed; and the actually measured values obtained on the signal are compared against the standard deviation values to monitor the presence/absence of an abnormality in the operation process” (paragraph 0016). Miura further teaches that different series of data are collected and stored (paragraphs 0017-0019), “an average value of the data and a standard deviation value for each sampling area are obtained, and the average value or the standard deviation value is compared against the actually measured value of the load current, to thereby perform the monitoring” (paragraph 0022) and “an upper limit value and a lower limit value are set as the standard deviation value multiplied by a coefficient, and the actually measured values obtained on the work are monitored by being compared against a permissible actual measurement range within the upper and lower limit values, to thereby perform the monitoring” (paragraph 0023).

17. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 18, 20, 21, 30, 32, 33, 38, 40-42, 44 and 45 are rejected under 35 U.S.C. §103(a), as being unpatentable over Miura (U.S. Patent Application Publication No. 2002/0173935), similarly as applied to claims 22, 24-26, 28, 29, 34, 36 and 37 above, further in view of Nguyen et al. (U.S. Patent Application Publication No. 2005/0209823; with an effective filing date of 06 June 2003); which discloses a “method and system are disclosed for comparing a data set to a baseline value for use in data analysis of the data set having a plurality of data points, the method comprising providing the data set to be analyzed, locating potentially bad data points in at least a portion of the data set using an odd-man out recursive technique, preparing a baseline set by discarding the potentially bad data points from the at least a portion of the data set and calculating a baseline value from the baseline set” (the abstract).

Although Miura teaches Applicant’s invention, substantially as instantly claimed, Miura does not provide for the instantly claimed calculation and use of a “linear regression.” In this regard, Nguyen et al. teach the use of a linear regression upon a data series, in order to determine a baseline for measurement (see, at least, paragraphs 0033-0034). It would have been obvious, to one having ordinary skill in the art, at the

time the instant invention was made, to utilize such a well-known statistical technique in the system of Miura, for the well-known purpose of determining trends in changes occurring within series of data.

19. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is advised to carefully review the cited art, as evidence of the state of the art, in preparation for responding to this Office action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M.N. Von Buhr whose telephone number is 571-272-3755. The examiner can normally be reached on M-F (9am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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